APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/759,601	01/16/2001	Alan Bensky	052625-5001	9436

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EXAMINER
LAU, TUNG S

ART UNIT	PAPER NUMBER
2863	

DATE MAILED: 06/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

	Application No.		Applicant(s)
Office Action Summary	09/759,601		BENSKY ET AL.
	Examiner		Art Unit
	Tung S Lau		2863

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 May 2003* .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-105* is/are pending in the application.

    4a) Of the above claim(s) *21-29, 51-60 and 81-90* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4, 8-14, 18-20, 31-34, 38-44, 48-50, 61-64, 68-74, 78-80 and 91-105* is/are rejected.

7)☒ Claim(s) *5-7, 15-17, 35-37, 45-47, 65-67 and 75-77* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ ·Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *16* .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

1.   Claims 21-29, 51-60, and 81-90 stand withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention as noted in paper number 14.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 11, 31, 41, 61, 71, 91, 96, 101, 2, 3, 4, 8, 9, 10, 12, 13, 14, 18, 19, 20, 32, 33, 34, 38, 39, 40, 42, 43, 44, 48, 49, 50, 62, 63, 64, 68, 69, 70, 72, 73, 74, 78, 79, 80, 92, 93, 94, 95, 97, 98, 99, 100, 102, 103, 104 and 105 are rejected under 35 U.S.C. 102(b) as being anticipated by Olich (U.S. Patent 5,298,904).

Regarding claim 1:

Olich discloses a wireless communication device including a first synthesizer for generating a first radio frequency (RF) signal, the first RIF signal including a sequence of carriers; a transmitter for transmitting the first RF signal; a receiver for receiving a second RIF signal from a remote wireless device phase locked with the first wireless device (Col. 2, Lines 39-48), the second RF signal including

a sequence of carriers corresponding to the carriers of the first RF signal (Col. 2,

Lines 49-59) , wherein the frequencies of the corresponding sequence of carriers

of the first RF signal are different from the frequencies of the sequence of

carriers of the second RF signal; a second synthesizer for generating a third RF

signal (Col. 2, Lines 39-64), the third RF signal including a sequence of carriers

corresponding to the carriers of the first and second RF signals, wherein the

phase of the third RF signal is coherent with the phase first RF signal (Col. 3,

Lines 1-44) ;and wherein the frequencies of the sequence of carriers of the

second RF signals are the same as the frequencies of the sequence of carriers

of the third RF signal; a phase detector for comparing the phase of each of the

carriers of the second RF signal to the phase of each of the corresponding

carriers of the third RF signal and generating a sequence of phase offsets (Col.

3, Lines 1-52) ; and a processor (fig. 5, unit 243)for determining distance

between the wireless communication device and the remote wireless device by

calculating an estimated slope of the sequence of phase offsets relative to the

frequencies of the sequence of carriers of the second RF signal (fig. 9, 10).

Regarding claim 11:

Olich discloses a wireless communication device, comprising: a first synthesizer

for generating a first radio frequency (R-F) signal, the first RF signal including a

single carrier having a frequency fto (Col. 2, Lines 45-64); a transmitter for

transmitting the first RF signal; a receiver for receiving a second RF signal from a

remote wireless device phase locked with the first wireless device (abstract), the

second RF signal including a sequence of carriers (Col. 2, Lines 45-64), wherein

the frequencies of the sequence of carriers of the second RF signal are different

from fto (Col. 2, Lines 45-64); a second synthesizer for generating a third RF

signal, the third RT signal including a sequence of carriers corresponding to the

carriers of the second RIF signal, wherein the phase of the third RF signal is

coherent with the phase first RF signal, and wherein the frequencies of the

corresponding sequence of carriers of the second RF signal are the same as the

frequencies of the corresponding sequence of carriers of the third RF signal (Col.

2, Lines 8-52); a phase detector for comparing the phase of each of the carriers

of the second RF signal to the phase of each of the carriers of the third RF signal

to generate a corresponding sequence of phase offsets; and a processor for

determining distance between the wireless communication device and the

remote wireless device by calculating an estimated slope of the phase offsets

relative to the frequencies of the sequence of carriers of the second RF signal

(Col. 3-4, Lines 54-12).

Regarding claim 31, 41, 61, 71:

Olich discloses a method, computer readable medium containing program

instructions for controlling a wireless communication device and for determining

distance between the wireless communication device and a remote wireless

device, comprising instructions for: generating a first radio frequency (RF) signal

(fig. 5, 9, 10), the first RIF signal including a sequence of carriers; transmitting

the first RF signal; receiving a second RF signal from a remote wireless device

phase locked with the wireless communication device (Col. 2, Lines 45-68), the

second RF signal including a sequence of carriers corresponding to the carriers

of the first RF signal (Col. 2, Lines 45-68), wherein the frequencies of the

sequence of carriers of the first RF signal are different from the frequencies of

the sequence of carriers of the second RF signal; generating a third RF signal

(Col. 2, Lines 45-68), the third RF signal including a sequence of carriers

corresponding to the carriers of the first and second RF signals, wherein the

phase of the third RF signal is coherent with the phase first RF signal, and

wherein the frequencies of the sequence of carriers of the second RIF signal are

the same as the frequencies of the sequence of carriers of the third RF signal

(Col. 2, Lines 45-68); comparing the phase of each of the carriers of the second

RF signal to the phase of each of the corresponding carriers of the third RF

signal to generate a sequence of phase offsets; and calculating an estimated

slope of the phase offsets relative to the frequencies of the sequence of carriers

of the second RF signal (Col. 2, Lines 45-68), wherein the estimated slope is

proportional to the distance between the wireless communication device and the

remote device (Col. 3, Lines 8-64, fig. 9, unit 1044-1058).

Regarding claim 91:

Olich discloses method of determining distance between a wireless

communication device and a remote wireless device (abstract), the method

comprising the steps of: generating a first signal (Col. 2, Lines 45-68);

transmitting the first signal (Col. 2, Lines 45-68); receiving a second signal from

the remote wireless device (Col. 2, Lines 45-68), the second signal including

multiple carriers at different frequencies (Col. 2, Lines 45-68), wherein each of

the multiple carriers are phase coherent with the first signal (Col. 2, Lines 45-68);

performing a phase comparison using phase information of the first signal and

the received second signal to generate multiple phase offsets (Col. 2, Lines 45-

68); and calculating an estimated slope of the phase offsets relative to the

frequencies of the multiple carriers of the second signal (Col. 2, Lines 45-68),

wherein the estimated slope is proportional to the distance between the wireless

communication device and the remote device (Col. 3, Lines 8-64, fig. 9, unit

1044-1058).

Regarding claim 96:

Olich discloses a wireless communication device, comprising: a synthesizer for

generating a first signal; a transmitter for transmitting the first signal (Col. 2, Lines

45-68); a receiver for receiving a second signal from a remote wireless device,

the second signal including multiple carriers having different frequencies (Col. 2,

Lines 45-68); a phase comparator for performing a phase comparison using

phase information of the first signal and the received second signal to generate

multiple phase offsets; and a processor for calculating an estimated slope of the

phase offsets relative to the frequencies of the multiple carriers of the second

signal (Col. 2, Lines 45-68), wherein the estimated slope is proportional to the

distance between the wireless communication device and the remote device

(Col. 3, Lines 8-64, fig. 9, unit 1044-1058).

Regarding claim 101:

> Olich discloses a computer readable medium containing program instructions for
> controlling a wireless communication device and for determining distance
> between the wireless communication device and a remote wireless device (Col.
> 2, Lines 45-68), comprising instructions for: controlling a first synthesizer that
> generates a first signal; controlling a transmitter that transmits the first signal;
> controlling a receiver that receives a second signal from the remote wireless
> device (Col. 2, Lines 45-68), the second signal including multiple carriers at
> different frequencies, wherein each of the multiple carriers of the second signal
> are phase coherent with the first signal (Col. 2, Lines 45-68); controlling a phase
> comparator that performs a phase comparison using phase information of the
> first signal and the received second signal to generate multiple phase offsets
> (Col. 2, Lines 45-68); and calculating an estimated slope of the phase offsets
> relative to the frequencies of the multiple carriers of the second signal, wherein
> the estimated slope is proportional to the distance between the wireless
> communication device and the remote device (Col. 3, Lines 8-64, fig. 9, unit
> 1044-1058).

Regarding claims 2, 3, 4, 8, 9, 10, 12, 13, 14, 18, 19, 20, 32, 33, 34, 38, 39, 40, 42, 43,
44, 48, 49, 50, 62, 63, 64, 68, 69, 70, 72, 73, 74, 78, 79, 80, 92, 93, 94, 95, 97,
98, 99, 100, 102, 103, 104 and 105:

Olich also discloses the use of modulated signal with the carrier RF (abstartc),

local oscillator to generate signal and frequency divider (fig. 5, unit 337, 251),

the first mixer has a DC component (fig. 6a, unit 267), phase shift by 90 and

quadrature-phase (N) degree (Col. 15, Lines 23-42), the remote device is based

on distance (abstract), use to complete commercial transaction (Col. 2, Lines 26-

53), the sireless device is to determine distance of the remote device (Col. 2,

Lines 26-53), multiple carries phase coherent with the first signal and second

signal (Col. 2, Lines 45-68), controlling the first and second carrier signal and

phase compare having the same frequency (Col. 3, Lines 8-44).

Claim Objections

3.   Claims 5-7, 15-17, 35-37, 45-47, 65-67, 75-77 are objected to as being

dependent upon a rejected base claim, but would be allowable if rewritten in

independent form including all the limitation of the base claim and any

intervening claims.

The following is an examiner's statement of reasons for allowance: prior art fail to

teach the calculation of Artan (quatradure/phase offset)/2, phase shift (n)=0, if

n=0, shift (n):= (offset n-offset n-1) +(phase (n-1)+ PI if offset n-offset n-1 less

than 0, offset (n):= (offset n- offset n-1)+ phase (n-1) otherwise, whee remote

device=3x10 (8 power) m/s x (slope of the phase shift/2 PI).

Any comments considered necessary by applicant must be submitted no later

than the payment of the issue fee and, to avoid processing delays, should

preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tung S Lau whose telephone number is 703-305-3309. The examiner can normally be reached on M-F 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 703-308-3126. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-5841 for regular communications and 703-308-5841 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

TC2800 RightFAX Telephone Numbers : TC2800 Official Before-Final RightFAX - (703) 872-9318, TC2800 Official After-Final RightFAX - (703) 872-9319

TC2800 Customer Service RightFAX - (703) 872-9317

TL   June 4, 2003

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